carbohydrate derivative is bound to the biosensor by [also comprises] a spacer molecule [part].

21. (Amended) A method [to bind] of binding a carbohydrate or a derivative thereof to a gold surface, comprising:

coating the gold surface with a thiol compound which contains an organic group and

binding a carbohydrate or derivative thereof to the organic group.

E3.

REMARKS

Reconsideration is respectfully requested of the Official Action December 9, 1997 relating to the above-identified application.

Applicants acknowledge and thank the Examiner for the courtesy extended to Applicants' representative at the interview of April 13, 1998.

The Office Action rejected claims 1-21 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action specifically recommended amendments to claims 1, 2, 14-17 and 21 to overcome the rejections.

Claims 1, 2, 14-17 and 21 have been amended herein in the

manner set forth in the Office Action. Accordingly, Applicants respectfully traverse the rejection and request its withdrawal. Applicants acknowledge and thank the Examiner for her helpful suggestions.

The Office Action rejected claims 1-21 under 35 U.S.C> § 103(a) as allegedly being unpatentable over Nilsson (US Patent No. 4,918,009) in view of Attridge et al., (WO 90/01166) and Karube (EP 0215669). The Office Action states that Nilsson discloses carbohydrate derivatives which can be coupled to different polymers but fails to teach immobilizing the carbohydrates on a biosensor. The Office Action also states that Attridge et al., disclose an optical biosensor with an immobilized ligand which can be a specific carbohydrate. It is further stated that Karube discloses a piezoelectric carbohydrate biosensor with an immobilized receptor that can be a sugar which is a carbohydrate.

It is alleged that it would be obvious to one of ordinary skill in the art at the time of the invention to use the carbohydrates of Nilsson with the biosensors of Attridge et al., and Karube.

Applicants respectfully traverse the rejection and request its withdrawal.

Applicants specification teaches a method of derivatizing a carbohydrate with an aglycon portion such that the

carbohydrate will be functionally active as a receptor on a biosensor surface. Neither Karube nor Attridge disclose a manner of carrying out the applicants claimed invention. There is not an enabling disclosure in either reference that suggest the manner in which an aglycon portion of a carbohydrate derivative can be bonded to the surface of a biosensor. Nilsson, while disclosing the synthesis of certain oligosaccharide compounds, does not disclose a method of immobilizing a carbohydrate derivative on a biosensor surface. None of the references furthermore disclose or suggest the carbohydrate-R-X-biosensor or carbohydrate-R-X-protein-biosensor configurations of claims 18 and 19.

Applicants respectfully submit, therefore, that the biosensor and method of use in claims 1-21 would not be made obvious by Nilsson, Attridge et al., or Karube either singly or in combination. Accordingly, Applicants request withdrawal of the rejection.

In light of the foregoing, Applicants submit that the claims, as amended, definitely and distinctly claim the Applicants' immobilized carbohydrate biosensor. Furthermore, the Applicants' invention is neither anticipated or made obvious by the cited prior art. The above amendments to the claims are at the suggestion of the Examiner and are presented to place the claims in better condition for allowance. The present amendment raises no new issues nor contains new matter.

Therefore, Applicants respectfully request favorable action in the form of allowance of the claims at the Examiner's earliest convenience.

Respectfully submitted,

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